CLAIMS:

1. A cathode ray tube (1) of the index type, the tube comprising

a gun (6) for generating an electron beam (7,8,9),

deflection means (11) for deflecting the electron beam (7,8,9) across an inner surface of a screen (10), the inner surface of the screen being provided with phosphor elements (20,20',20") for generating light when being excited by the electron beam (7,8,9),

a tracking structure provided at the inner surface of the screen (10) for deriving a positioning signal (f) corresponding to the position of the beam on the screen, the tracking structure comprising tracking elements (16,18) extending substantially parallel to each other, the tracking elements (16,18) being positioned such that each phosphor element (20) is flanked by two tracking elements,

wherein a subset of the tracking elements (16,18) have gaps (30,30') for deriving an additional positioning signal for positioning the electron beam.

2. A cathode ray tube of the index type according to claim 1, wherein gaps (30,30') of m adjacent phosphor elements form a first column (42) and gaps (31,31') of n adjacent phosphor elements form a second column (44), both columns (42,44) extending in a direction perpendicular to the tracking elements (20), the first (42) and the second (44) column being positioned adjacent to each other.

3. A cathode ray tube of the index type according to claim 2, wherein m is equal to nine and n is equal to five, while the first (42) and the second (44) column are positioned symmetrically with respect to each other.

4. A cathode ray tube of the index type according to claim 4, wherein the first and the second column form a T-structure, and the inner surface of the screen is provided with a set of T-structures that are distributed over the screen according to the positions of an x by y -matrix.

5. A cathode ray tube of the index type according to claim 4, wherein x and y are equal to nine.